REMARKS

Claims 1, 4, 5, 9, 11-20 and 23-32 remain in this application. Claims 1, 4, 11-14, 18, 23 and 27 have been amended. Claims 2, 3, 6-8, 10, 21 and 22 have been cancelled. Claims 1, 12, 18 and 27 are independent claims.

In an Office action dated September 16, 2005, claims 1-3 and 5-6 were rejected under 35 U.S.C. 102(e) as being anticipated by Fergason et al. In addition, claims 4, 9, and 10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fergason et al. in view of Witt et al. Claims 7 and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fergason et al. in view of Breed et al., while claims 11-17 were rejected as being unpatentable over Fergason et al. in view of Breed et al. and Grace et al. Claims 18-21, 25, and 27-31 were rejected as allegedly being unpatentable over Breed et al. in view of Fergason et al., with 22-24 being rejected further in view of Grace et al. and claims 26 and 32 being rejected further in view of Witt et al.

In response to the rejections to the claims, Applicant has amended the claims to further distinguish the invention from the cited prior art. Applicant respectfully requests reconsideration of the claims in view of the amendments.

A. Patentability of Amended Independent Claim 1

Claim 1 has been amended to describe the invention as being a system for enabling automatic determination of information regarding a person engaging in a business transaction. The system includes an optical member, which is identified in the claim as being a divider that is fixed in position between an intended location of a viewer and an environment of interest to the viewer. The environment of interest includes an anticipated location of a second person engaged in the business transaction. The divider is generally transmissive with respect to visible light and is substantially reflective with respect to a particular detection wavelength. The system includes a detector for receiving light reflected by the divider from the viewer. A processor is connected to the detector for processing the detector output. The processor is configured to identify information regarding the viewer.

Support for the amendment to claim 1 may be found in paragraph [0008] on page 3 of the application as originally filed. This paragraph states that the optical member may be a divider between two persons engaged in a business transaction, such as a glass member used at a station of a bank. Support may be also found in paragraphs [0017] and [0025], with refer to the embodiment shown in Fig. 4. In these paragraphs, it is stated that the detector is connected to a processor for determining information regarding the person at Station A. As one example, the identity of the person may be of interest for security reasons.

As previously noted, original claim 1 was rejected as being anticipated by Fergason et al. This patent describes a system for detecting eye closure. The system is connected to a frame that is configured to be worn by the user. For example, the system may be incorporated into a helmet or onto the frame of eyeglasses. Thus, one feature which distinguishes Applicant's claimed system from the system described in Fergason et al. is that the optical member of Fergason et al. is not fixed in position relative to an environment which is of interest to the viewer. Since the prior art patent teaches a system that is specifically designed to move with the viewer, the optical member of Fergason et al. does not anticipate the optical member described in claim 1, as amended. Moreover, claim 1 describes the optical member as being a divider between locations of persons engaging in a business transaction. Fergason et al. does not describe a divider as set forth in the pending claim.

It is respectfully asserted that Fergason et al. teaches away from the claimed invention. In paragraph [0004] of the patent, it is stated that a shortcoming of prior devices was that they required a driver to maintain constant eye contact with the camera, since eyelid movement could not be monitored if the user looked sideways or turned around. Again, in paragraph [0006] of Fergason et al., it is stated that a major drawback of prior systems was that there was an inefficiency when the user actively moved his/her head or body independent of gazing at a point. The prior art patent states that the shortcomings and drawbacks were overcome by incorporating the system onto a framework that moves with the viewer.

Since Fergason et al. teaches away from providing an optical member which has a fixed position relative to the environment of interest to the viewer, it would not be obvious to modify the prior art system to more closely resemble Applicant's claimed invention. Moreover, it is asserted that none of the other cited art references teach or suggest the system described

in amended claim 1, whether taken alone or in combination. Witt et al. does not teach or suggest a system for enabling automatic determinations of information regarding a person engaging in a business transaction. Rather, the invention of Witt et al. is primarily directed toward use in determining the attentiveness of a driver of a vehicle. In Witt et al., driver profiles are maintained, since the determinations of attentiveness can be maximized in reliability if the determinations are individualized. In the system of Witt et al., the entire face of a person is viewed in order to obtain certain facial features. These facial features are used to identify (or not) the person. If the person is identified, the ocular profile of the person is retrieved, based on the predetermined facial features. The ocular profile is then accessed in the tracking of movement of the eye. If the person is not identified, an ocular profile is created. Witt et al. does not teach or suggest the use of this system to enable automatic determinations of information regarding a person engaging in a business transaction. Moreover, the "optical members" of Witt et al. are contained within a car so that the optical members are not fixed in position relative to the environment of interest to the viewer.

The patent to Breed et al. is also related to the monitoring arrangement with a vehicle. Like Witt et al., there is no teaching of a divider that is fixed in position relative to the environment of interest to the viewer/driver. These differences also apply to the teachings of Grace et al. Therefore, it would not be obvious to modify the teachings of Fergason et al. to provide the system described in amended claim 1.

Applicant assets that amended claim 1 and its dependent claims are allowable over the cited prior art.

B. Patentability of Dependent Claim 11

Claim 11 has been amended to describe the system as including first and second light sources. The first light source emits first light, while the second light source emits second light. The first and second lights have the same wavelength, but the first light has a different polarization relative to the second light. The first and second light sources are both directed to reflect light from the optical member to an anticipated position of eyes of the viewer, but the second light is reflected to the anticipated position of the eyes at an angle that is distinguishable from the angle of the first light.

Support for the polarization feature may be found in paragraph [0042] on page 13 of the application as originally filed. In this paragraph, it is stated that the first light source emits light that is polarized in one direction, while the second light source emits light polarized in an orthogonal direction. As one possibility, two detectors may be used and appropriate polarizers may be positioned in front of the detectors. Support for the amendment regarding the use of the same wavelength for the two lights, but different illumination angles may be found in paragraph [0038].

In the rejection of original claim 11, it was noted that neither Fergason et al. nor Breed et al. discloses two light sources. Therefore, Grace et al. was cited for teaching first and second light sources. Applicant points out firstly that Grace et al. teaches the use of two different wavelengths for the two light sources. This is the first distinguishing feature, even if one were to modify the teachings of Fergason et al./Breed et al. as proposed in the Office action. Additionally, there is no teaching or suggestion that the light sources should have different polarizations.

Fig. 1 of Grace et al. was cited as being relevant to the determination of the patentability of original claim 11. While Fig. 1 shows two light sources, the light sources are shown as having the same angle of illumination of the eyes. The Office action does not state that any of the prior art references shows a second light source that is directed to reflect second light from an optical member to the anticipated position of eyes, but at an angle that is distinguishable from an angle of first light. Applicant respectfully asserts that even if one were to modify the teachings of Fergason et al./Breed et al. as proposed in the Office action, the resulting system would not establish a prima facie case of obviousness under Section 103(a). Reconsideration of the claim is requested.

C. Patentability of Independent Claim 12

Amended claim 12 describes the eye detection system as including first and second light sources for respectively emitting first and second light to impinge a dichroic mirror. By amendment, the first and second light sources are identified as being equal with respect to wavelength. However, the second light is reflected at a second illumination angle greater than the first illumination angle of the reflected first light.

In rejecting original claim 12, the Office action agrees that neither Fergason et al. nor Breed et al. disclose a system that includes a dichroic mirror and first and second light sources. Thus, Fig. 1 of Grace et al. is cited. However, as noted above with respect to the patentability of claim 11, Grace et al. does not teach or suggest that the second light source is positioned to emit second light to impinge the dichroic mirror such that the second light is reflected at a second illumination angle greater than the first illumination angle of the first light. As described on pages 9 and 10 of the application as originally filed, Applicant's system utilizes the two distinct angles of illumination in order to identify "retinal return." On the other hand, Grace et al. teaches that different frequencies should be employed.

In paragraph [0030] of Grace et al., it is stated that at some wavelengths (e.g., 850 nm) light is largely reflected by different components of a person's eye, while at other wavelengths (e.g., 950 nm) light is largely absorbed. As a result, two images formed by light of 950 nm and 850 nm are approximately identical to each other, except that the image from light having the greater wavelength will not include an image of the person's pupils.

Since claim 12 employs a technique not taught or suggested by any of the cited prior art references, the claim is not rendered obvious under Section 103(a). In fact, Applicant asserts that the prior art teaches away from the claimed invention, since claim 12 specifically states that the wavelengths of the two lights are equal.

Reconsideration of claim 12 and its dependent claims is respectfully requested.

D. Patentability of Dependent Claim 13

Claim 13 has been amended to state that the first and second light sources are synchronized to alternate with respect to emission. Thus, the detector alternates in generating image information as a consequence of receiving back-reflected first light and generating image information as a consequence of receiving back-reflected second light. Support for the amendment may be found in paragraph [0038] on pages 11 and 12 of the application as originally filed.

Applicant respectfully assets that none of the four prior art references teaches or suggests first and second light sources that are synchronized to alternate with respect to emission, so that the detector

alternates in generating image information as described in amended claim 13. Only Grace et al. was cited for teaching more than one light source. Paragraph [0040] in Grace et al. teaches synchronization, but it is the detection that is synchronized. Rather than providing alternate detection (as in claim 13), identical images are provided by utilizing more than one image sensor. The image sensors are synchronized such that each frame or image from the first image sensor is taken at the same time as an image from the second image sensor.

Since the prior art teaches simultaneous detection of two frames to be subtracted, while amended claim 13 describes alternating detections, the prior art patent does not render Applicant's claimed invention obvious, even when combined with the teachings of Fergason et al., Breed et al and Witt et al.

E. Patentability of Independent Claim 18

Claim 18 has been amended to describe the system as including first and second pulsed light sources. The first pulsed light source emits timed pulses of first light that is reflected by a dichroic mirror toward an anticipated location of a face of a driver. Similarly, the second pulsed light source emits timed pulses of second light toward the dichroic mirror for reflection toward the anticipated location so as to illuminate the face at an angle greater than illumination by the first light. The first and second pulsed light sources are controlled to provide alternate emissions of the first and second light. In like manner, a detector is controlled to form separate frames of back-reflected first light and back-reflected second light. The differences between the frames are used by the processor as the basis for determining information regarding the driver.

Support for the amendment to claim 18 may be found in paragraph [0038] of the application. A stated example is one in which a pulse is emitted from the first light source, followed by a pulse from the second light source. It is desirable for the light sources to alternate emitting light pulses, so that the alternating frames differ with respect to the two angles of illumination. For example, even-numbered frames may be associated with pulses of the first light source, while odd-numbered frames are associated with pulses of the second light source.

Applicant assets that none of the prior art references teaches or suggests the features provided by amendment to claim 18. Neither Fergason et al. nor Breed et al. describe the use of two light sources. Fig. 1 of Grace et al. was cited for showing multiple light sources, but does not teach or suggest pulsing the two sources to provide the system of claim 18. Witt et al. was cited for its teaching regarding the ability to identify particular persons. The patent does not teach or suggest a system that is controlled in a manner described in claim 18.

Applicant assets that independent claim 18 and its dependent claims are patentable over the prior art period.

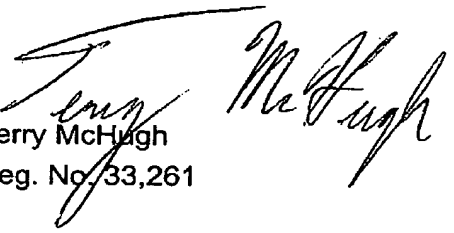
F. Patentability of Independent Claim 27

Claim 27 has been amended to describe the method as including accessing data indicative of persons that are authorized to drive a motorized vehicle and then selectively enabling the motorized vehicle on the basis of whether the driver is authorized. Support for the amendment may be found in paragraphs [0023] and [0024] on page 7 of the application. Retinal detection and iris detection may be used as a basis for distinguishing a person, in the same manner as the use of a fingerprint. A database of "allowed drivers" may be accessed by a processor of the system and the motorized vehicle may be selectively enabled or disabled on the basis of the determination of the identification of the driver.

In the Office action it is agreed that neither Breed et al. nor Fergason et al. discloses a processor that is configured to correlate detection of human eyes to stored identification of a particular person. Thus, Witt et al. is cited. However, Witt et al. does not teach or suggest selectively enabling a motorized vehicle on the basis of whether the driver is identified as being authorized. Applicant notes that Witt et al. does describe placing the vehicle in a "valet mode" if a driver is not recognized, but the vehicle is not selectively enabled. More importantly, Witt et al.. teaches that the identification is by means of the entire face. Consequently, Applicant submits that the amendment to claim 27 places the independent claim and its dependent claims in an allowable condition.

Applicant respectfully requests reconsideration of the claims in view of the amendments and remarks made herein. A notice of allowance is earnestly solicited. In the case that any issues regarding this application can be resolved expeditiously via a telephone conversation, Applicant invites the Examiner to call Terry McHugh at (650) 969-8458.

Respectfully submitted,



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